

Draft for Fish Committee Discussion
April 15, 2022

Willapa Bay Salmon Management Policy Review

Alternative 2: Manage for a Combination of Wild and Hatchery Fish

**FISH AND WILDLIFE COMMISSION
POLICY DECISION**

POLICY TITLE: Willapa Bay Salmon Management POLICY NUMBER: C-3632

Effective Date: TBD
Termination Date: TBD

Supersedes: Policy C-3622

See Also: Policy C-3622

Approved {Date} by:
Chair
Washington Fish and Wildlife Commission

Purpose

The over-arching purpose of this Policy is to guide management of wild and hatchery salmon populations in Willapa Bay in a manner that achieves stated spawning escapement conservation goals; significantly enhances and improves both recreational and commercial sustainable fishing in comparison to those that would be provided for by predecessor Policy C-3622; and promotes orderly fisheries.

Authority Definition and Intent

This Policy is established by the Washington State Fish and Wildlife Commission (Commission) and is applicable to the management by the Washington State Department of Fish and Wildlife (Department) of chinook, coho, and chum salmon (salmon) in Willapa Bay and its freshwater tributaries as the Commission’s interpretation of the Commission and Department mandate described in RCW 77.04.112.

The intent of this Policy to is to provide specific policy values, direction, positions, goals, objectives and actions to the Department to achieve the stated purpose of the Policy. Further, the intent of this Policy is to be responsive to the Department’s comprehensive review of Policy C-3622 completed and updated in October, 2020 and to many of the

44 concerns expressed by the public prior to and during the comprehensive review process.
45 While many of the provisions of this policy document are similar to policy provisions in Policy
46 C-3622 adopted by the Commission in 2015, the provisions described in this policy
47 document deliberately and fully supersede the policy directives of the 2015-adopted policy
48 and are intended to be complied with in accordance with Commission adopted Rules of
49 Procedure.

51 **General Policy Statement**

52 This Policy provides the Department with a cohesive set of guiding principles, strategies and
53 actions designed to increase the combined abundance of wild and hatchery produced
54 salmon in the Willapa Bay basin and improve the associated recreational and commercial
55 fisheries in a sustainable manner. Although this Policy focuses primarily on fishery
56 management and hatchery production, this Policy in no way is meant to diminish the
57 significance of fish habitat protection and restoration. Rather, this Policy explicitly supports
58 protection and restoration of fish habitat throughout the Willapa Bay basin.

59
60 It is acknowledged there is uncertainty in how and when the strategies and measures
61 described in this Policy will achieve the stated purposes, such as securing funding for
62 enhanced weir infrastructure and research capabilities. It is also recognized that there are
63 likely to be unpredictable factors that affect Policy implementation success, such as changes
64 in the environmental conditions that affect salmon steelhead abundance, the effectiveness of
65 habitat protection and restoration, and the results of scientific research. Consequently,
66 management decisions must be informed by fishery and stock status monitoring and should
67 be adaptively modified as necessary to meet the stated purposes of this Policy.

69 **Guiding Principles**

70 The Department will apply the following principles and policy positions as directives and
71 guides toward achieving the purposes of the Policy.

- 72
- 73 1) Policy implementation shall proceed under the recognition that there are not any fish
74 species in the Willapa Bay basin currently listed under the federal Endangered Species
75 Act (Act) and there are not currently any Tribal fisheries operating under federally
76 recognized treaty-reserved fishing rights in the Willapa Bay basin. In the event that this
77 changes during the implementation of this Policy, the Department shall make
78 adjustments as necessary to achieve the purpose of this Policy consistent with the
79 provisions of the Adaptive Management section of this Policy.
80
 - 81 2) The Department shall work to protect current habitat and restore damaged habitat as a
82 productivity foundation for Willapa Bay salmon populations, in coordination with federal
83 and state agencies, regional **Fishery Enhancement Groups**, the Willapa Bay **Lead**
84 **Entity** nonprofit organizations, and the public.
85
 - 86 3) The Department shall seek funding for engineering and construction of state-of the art
87 enhanced weirs in the Willapa and Naselle Rivers designed to enhance the ability to
88 sort and manage hatchery and natural origin spawning fish. The Department shall plan

89 to take advantage of research opportunities made available by the installation of
90 advanced weir designs, including specifically targeting an improved understanding of
91 different levels of hatchery-wild parentage on the productivity of Willapa Bay fall
92 chinook salmon.
93

- 94 4) The Department shall strive to mark all juvenile hatchery origin chinook and coho by
95 adipose fin removal and chum salmon by internal bone marking or other methods.
96
- 97 5) Management of natural spawning and hatchery populations shall strive to achieve
98 significantly higher aggregate abundance and sustainable catch in fisheries than that
99 which would have been produced by full implementation of Policy C-3622 adopted in
100 2015.
101
- 102 6) In addition to serving the purpose of improving sustainable fisheries in comparison to
103 those that would be provided by the 2015 Policy, goals of hatchery production are to
104 a) mitigate the effects of lost or long-term impaired habitat until such habitat loss is
105 reversed and to
106 b) provide additional prey for the Southern Resident Orca population.
107
- 108 7) The Department shall work within Pacific Salmon Commission and Pacific Fishery
109 Management Council processes to insure that the status of Willapa Bay wild and
110 hatchery stocks and the purpose of this Policy are fully considered in marine fishery
111 season setting and management.
112
- 113 8) The Department shall plan fisheries pre-season and manage fisheries in-season in a
114 manner that achieves the stated spawning escapement conservation goals in this
115 Policy. When pre-season run-size forecasts indicate there are insufficient fish of a
116 particular species to achieve a stated wild or hatchery spawning escapement
117 conservation goal, an incidental take limit of no more than 10% of the depressed
118 species run segment¹ shall be allowed for the incidental catch in fisheries targeting
119 healthy stocks, in accordance with the Species Specific Provisions section of this
120 Policy.
121
- 122 9) Recreational fisheries shall be mark-selective unless the abundance of natural-origin
123 stocks is sufficiently high to not require their release in achieving spawning escapement
124 conservation goals and optimizing aggregate fishery yield. The Department shall work
125 with commercial fishery participants under an approach that encourages innovation in
126 optimizing the use of alternative commercial fishing gear and traditional gillnet fishing
127 gear, including the use of incentives for alternative commercial fishing gear such as
128 special time or area season openings.

¹ A run segment is defined for Willapa Bay fisheries as the aggregate wild spawning conservation goal or the aggregate hatchery spawning escapement goal; for Willapa Bay tributary fisheries, a run segment is defined as the wild spawning conservation goal or the hatchery spawning conservation goal of the tributary in question.

- 129
130 10) As an in-season fishery management measure for each of the salmon species, the
131 Department shall explore the utility of test fisheries and the interpretation of public
132 fishery catch rates as updates to pre-season forecasts, with a precautionary application
133 and interpretation approach relative to risks to achieving spawning escapement
134 conservation goals.
135
136 11) The Department shall seek the funding necessary to conduct the monitoring, sampling,
137 and evaluations in both fisheries and spawning escapement areas needed to achieve
138 the provisions of this Policy.
139

140 **Species-Specific Provisions**

141 Subject to the adaptive management provisions of this policy, the Department will manage
142 salmon wild populations, hatchery programs and target fisheries consistent with the Guiding
143 Principles and the following additional policy guidance.
144

145 **Fall Chinook Salmon**

146 1) Natural Production

147 ESU context

148
149 Wild fall chinook salmon are to be managed with the recognition that Willapa Bay populations
150 are a component of the coastal chinook evolutionarily significant unit under the federal ESA,
151 are currently not listed under the ESA, and that federal listing decision-making will be based on
152 the status of the full ESU.
153
154

155 Conservation Goals

156 Mixed stock fisheries will be managed on the basis of achieving an aggregate wild spawning
157 escapement conservation goal of {insert new MSY S_{msy} value (1,700?)}² and the aggregate
158 hatchery escapement conservation goal of {insert adult fish #}. This aggregate wild spawning
159 escapement conservation goal is comprised of the following conservations goals for natural
160 origin adult fish on the spawning grounds, which will be used to manage respective tributary
161 fisheries:

- 162 a. Willapa and North Rivers: {new S_{msy} value (950?)} natural origin spawners.
163 b. Naselle and Bear Rivers: {new S_{msy} value (650?)} natural origin spawners.
164 c. Nemah and Palix Rivers: {new S_{msy} value (100?)} natural origin spawners.
165

166 Rivers with No Hatchery Releases

167 There shall be no direct release of hatchery fish into the North River, the Bear River, the Palix
168 River and the Nemah River unless approved by the Commission as a conservation or
169 experimental program in accordance with the Adaptive Management section of this Policy.
170

² See graphs of spawner and subsequent production for natural-origin fall chinook following the Adaptive Management section of this document.

171 Enhanced Weir Operations

172 Current and enhanced weir operations shall be managed to annually minimize the proportion
173 of hatchery-origin spawners allowed to spawn with natural-origin spawners when the river
174 specific wild spawning escapement conservation goal is achieved or exceeded, and to utilize
175 the number of hatchery-origin spawners necessary to achieve the wild spawning escapement
176 conservation goal when the return of natural-origin spawners is less than the wild spawning
177 escapement conservation goal. In an instance where both the natural-origin abundance is less
178 than the wild spawning escapement conservation goal and the hatchery-origin abundance is
179 less than the hatchery spawning escapement conservation goal, hatchery-origin fish shall be
180 prioritized for use in the hatchery program.

181
182 Experimental and Evaluative Research Opportunities

183 In recognition of the scarcity of scientific information for ocean-type, early-entry fall chinook on
184 the effects of differences in generational productivity due to differential wild/hatchery
185 parentage, the Department shall explore conducting experimental or other evaluative research
186 that takes advantage of the opportunities presented by the enhanced weir operations in the
187 Willapa and Naselle rivers and adjacent rivers without hatchery releases.

188
189 2) Hatchery Programs

190
191 Numerical Goals

192 Consistent with Guiding Principle 6 and the purpose of this Policy, mixed stock fisheries will be
193 managed on the basis of achieving an aggregate hatchery spawning escapement conservation
194 goal corresponding to the number of adult fish needed to produce the following smolt release
195 objectives:

196 Forks Creek Hatchery: 3.5+ M smolts

197 Naselle Hatchery: 5+ M smolts

198 Nemah Hatchery: TBD {zero? 3.3M ? 3.3 M distributed to the other two hatcheries?}

199

200 Additional hatchery production may occur at Forks Creek and Naselle hatcheries to achieve
201 the purpose and provisions of this Policy, based on the results of enhanced weir operations
202 and hatchery production infrastructure options.

203

204 Hatchery Broodstock Genetics

205 It is recognized that there is a wide-spread history of transfers of genetic strains from areas
206 outside Willapa Bay and an extensive history of transferring adult spawning salmon (?), eggs,
207 and juvenile fish between hatcheries on different tributaries of Willapa Bay, and that such
208 practices have likely compromised the original genetic strains native to Willapa Bay tributaries.
209 Nevertheless, genetic practices shall now strive to allow for local adaptation and neither
210 transfers of out of basin stocks nor transfers between Willapa Bay hatchery facilities shall
211 occur after the adoption of this Policy, subject to the adaptive management provisions of this
212 Policy.

213

214 When hatchery returns are in excess of the adult spawning conservation goal, retention of
215 adult fish for spawning and eggs taken shall strive to replicate the historic run timing and age

216 profiles. When river specific wild spawning escapement conservation goals are exceeded,
217 natural origin spawners are to be incorporated into the hatchery broodstock for that annual
218 cycle, up to an amount of {TBD}.

219
220

221 3) Fishery Management

222

223 Recreational and commercial fishery priorities

224

225 Fall chinook fisheries shall be managed to achieve a general priority for recreational fisheries,
226 but to provide for meaningful fishing opportunity for both recreational and commercial fisheries.
227 This general priority shall be accomplished with a management intent to provide the first
228 opportunity for fall chinook target fishing to the mixed stock recreational fishery in Willapa Bay
229 as well as an opportunity for recreational fisheries in Willapa Bay tributaries. The Willapa Bay
230 recreational fishery will be managed to the extent that it does not preclude Willapa Bay
231 commercial fishing opportunity or tributary recreational fishing opportunity. Commercial fall
232 chinook target fisheries shall be managed in Willapa Bay areas to achieve aggregate spawning
233 escapement conservation goals for both natural and hatchery origin fall chinook and a
234 meaningful recreational opportunity for tributary fall chinook fishing, and shall not begin prior to
235 September 8. Tributary recreational fisheries shall be managed to achieve tributary spawning
236 escapement goals and provide meaningful opportunity prior to spawning area closures in a
237 manner consistent with law enforcement concerns and low water situations.

238

239 Planning for Willapa Bay basin fall chinook target fisheries shall take into account incidental
240 impacts in fisheries targeting coho salmon. The Director shall use his discretion in prioritizing
241 the amount of incidental impacts allocated to coho target fisheries, with a goal of optimizing the
242 socio-economic benefits for both commercial and recreational fisheries.

243

244 **Coho Salmon**

245

246 1) Natural Production

247

248 ESU context

249 Wild coho salmon are to be managed with the recognition that Willapa Bay populations are a
250 component of the coastal coho evolutionarily significant unit under the federal ESA, are
251 currently not listed under the ESA, and that federal listing decision-making will be based on the
252 status of the full ESU.

253

254 Conservation Goals

255 Mixed stock fisheries will be managed on the basis of achieving an aggregate wild spawning
256 escapement conservation goal of 13,090. The aggregate wild spawning escapement
257 conservation goal is comprised of the following individual spawning escapement conservation
258 objectives for natural origin adult fish on the spawning grounds, which will be used to manage
259 respective tributary fisheries:

260

- a. Willapa River: 4,030

- 261 b. Naselle River: 2,091
- 262 c. North River and Smith Creek: 5,286
- 263 d. Nemah River: 994
- 264 e. Bear River: 438
- 265 f. Palix River: 258

266

267 Enhanced Weir Operations

268 To the extent practicable, the enhanced weir shall be operated for coho salmon in a similar
269 manner and for a similar purpose as described above for fall chook salmon.

270

271

272 Rivers with No Hatchery Releases

273

274 There shall be no direct release of hatchery produced coho salmon into the North River or
275 Smith Creek, unless approved by the Commission as a conservation or experimental program
276 in accordance with the Adaptive Management section of this Policy.

277

278 2) Hatchery Programs

279

280 Consistent with Guiding Principle 6 and the purpose of this Policy, mixed stock fisheries will be
281 managed on the basis of achieving an aggregate hatchery spawning escapement conservation
282 goal of {insert number} adult fish, to produce the following smolt release objectives:

283 Forks Creek Hatchery: 0.3 M+ smolts

284 Nemah Hatchery: TBD M smolts

285 Naselle Hatchery: 1.4 M+ smolts

286

287 Additional hatchery production may occur at Forks Creek and Naselle hatcheries to achieve
288 the purpose and provisions of this Policy, based on the results of enhanced weir operations
289 and hatchery production infrastructure options.

290

291 When hatchery returns are in excess of the adult spawning escapement conservation goal,
292 retention of adult fish for spawning or eggs taken shall strive to replicate the historic run timing
293 and age profiles. When river specific wild spawning escapement conservation goals are
294 exceeded, natural origin spawners are to be incorporated into the hatchery broodstock for that
295 annual cycle, up to an amount of {TBD}.

296

297

298 3) Fishery Management

299

300 Recreational and commercial fishery priorities

301

302 Coho salmon fisheries shall be managed to achieve a general priority for commercial fisheries,
303 but to provide for meaningful fishing opportunity for both recreational and commercial fisheries.
304 The Willapa Bay commercial fishery will be managed to the extent that it does not preclude
305 Willapa Bay recreational fishing opportunity or tributary recreational fishing opportunity. This

306 shall be accomplished by providing the first opportunity for coho target fishing to the mixed
307 stock recreational fishery in Willapa Bay prior to priority commercial fishery, and after the
308 priority commercial fishery in Willapa Bay, providing an opportunity for recreational fisheries in
309 Willapa Bay tributaries. Commercial coho target fisheries shall be managed in Willapa Bay
310 areas to achieve the aggregate spawning escapement conservation goals for both natural and
311 hatchery origin coho and recreational opportunity for tributary recreational coho fishing.
312 Tributary recreational fisheries for coho salmon shall be managed to achieve tributary
313 spawning conservation goals and provide meaningful opportunity prior to spawning area
314 closures and in a manner consistent with law enforcement concerns and low water situations.
315

316 Planning for Willapa Bay basin coho target fisheries shall take into account incidental impacts
317 in fisheries targeting chinook and chum salmon. The Director shall use his discretion in
318 prioritizing the amount of incidental impacts allocated to fall chinook and chum target fisheries,
319 with a goal of optimizing the socio-economic benefits for both commercial and recreational
320 fisheries.

321
322 **Chum Salmon**

323
324 1) Natural Production

325
326 ESU context

327 Wild chum salmon are to be managed with the recognition that Willapa Bay populations are a
328 component of the **coastal chum** evolutionarily significant unit under the federal Endangered
329 Species Act (ESA), are currently not listed under the ESA, and that federal listing decision-
330 making will be based on the status of the full ESU.

331
332 Conservation Goals

333 Mixed stock fisheries will be managed on the basis of achieving an aggregate wild spawning
334 escapement conservation goal of 35,400.

335
336 Rivers with No Hatchery Releases

337 There shall be no direct release of hatchery fish into the North River and Smith Creek, the
338 Palix River and Bear River unless approved by the Commission as a conservation or
339 experimental program in accordance with the Adaptive Management section of this Policy.

340
341 2) Hatchery Programs

342
343 Consistent with Guiding Principle 6 and the purpose of this Policy, hatchery programs shall
344 produce the following smolt release objectives:

345 Forks Creek Hatchery: **zero or TBD** M smolts

346 Nemah Hatchery: 2 M smolts **(more?)**

347 Naselle Hatchery: **zero or TBD** M smolts

348

349 When hatchery returns are in excess of the adult spawning conservation goal, retention of
350 adult fish for spawning or eggs taken shall strive to replicate the historic run timing and age

351 profiles. Natural origin spawners are to be incorporated into the hatchery broodstock for that
352 annual cycle, up to an amount of {TBD}.

353

354

355 3) Fishery Management

356

357 Recreational and commercial fishery priorities

358

359 Chum salmon fisheries shall be managed to achieve a general priority for commercial
360 fisheries, but to provide for meaningful fishing opportunity for both recreational and commercial
361 fisheries when run sizes are sufficient to support fisheries. Commercial and recreational chum
362 salmon target fisheries shall be managed to achieve the aggregate spawning escapement
363 conservation goal for natural origin chum salmon. The commercial fishery priority shall be
364 accomplished by providing the first opportunity for chum target fishing to the mixed stock
365 commercial fishery in Willapa Bay, with sufficient escapement to provide a secondary
366 opportunity for recreational fisheries in Willapa Bay tributaries.

367

368 Planning for Willapa Bay basin chum target fisheries shall take into account incidental impacts
369 in fisheries targeting coho salmon and steelhead. The Director shall use his discretion in
370 prioritizing the amount of incidental impacts allocated to coho salmon and steelhead target
371 fisheries, with a goal of optimizing the socio-economic benefits for both commercial and
372 recreational fisheries.

373

374 **Adaptive Management**

375

376 This Policy establishes a number of important conservation, production, and allocation
377 provisions for the Director and agency staff to apply when managing the salmon fishery
378 resources of Willapa Bay. While this policy establishes a clear presumptive path forward, the
379 identified principles, goals, objectives, and actions are intended to guide decision-making and
380 are not intended to foreclose adaptive management based upon new information. On the
381 contrary, an intent of this Policy is to encourage gathering and consider additional information
382 during the implementation process in efforts to more successfully achieve the stated purpose
383 of this Policy. The Commission fully expects that the Director and agency staff will continue to
384 consider new information, evaluate alternate means to carry out policy provisions, and
385 consider instances in which it may make sense to deviate from the presumptive path forward
386 when such changes improve achievement of the stated purpose of this Policy. The
387 Commission expects that significant deviations from the presumptive path forward will be
388 communicated to the Commission and the public, and that substantial questions of policy
389 interpretation will be brought to the Commission for resolution.

390

391 The Commission will track implementation of this Policy by receiving Department reviews
392 every three years beginning three years after adoption and a comprehensive review after ten
393 years of implementation. As part of the six-year report, the Department presentation shall
394 include a briefing on research results and ongoing studies related to enhanced weir
395 operations. As part of the comprehensive review, the Department shall review wild spawning

396 conservation goals for fall chinook, coho, and chum salmon to ensure that they reflect a
397 current understanding of productivity dynamics.
398

399 **Delegation of Authority**

400 The Commission delegates the authority to the Director, through the North of Falcon season
401 setting process, to set seasons for recreational and commercial fisheries in the Willapa Bay
402 Basin, and to adopt permanent and emergency regulations to implement these fisheries in
403 accordance with the provisions of this Policy. In the event of a rare situation where the mix of
404 the run size abundance of species or species stock segments is such that management in
405 accordance with the incidental take or other provisions of this Policy will result in an extreme
406 shortfall from a stated conservation goal or foregoing a substantial socio-economic fishery
407 benefit, the Director is delegated the authority to adaptively manage fisheries towards the most
408 optimal result possible.
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See graphs below

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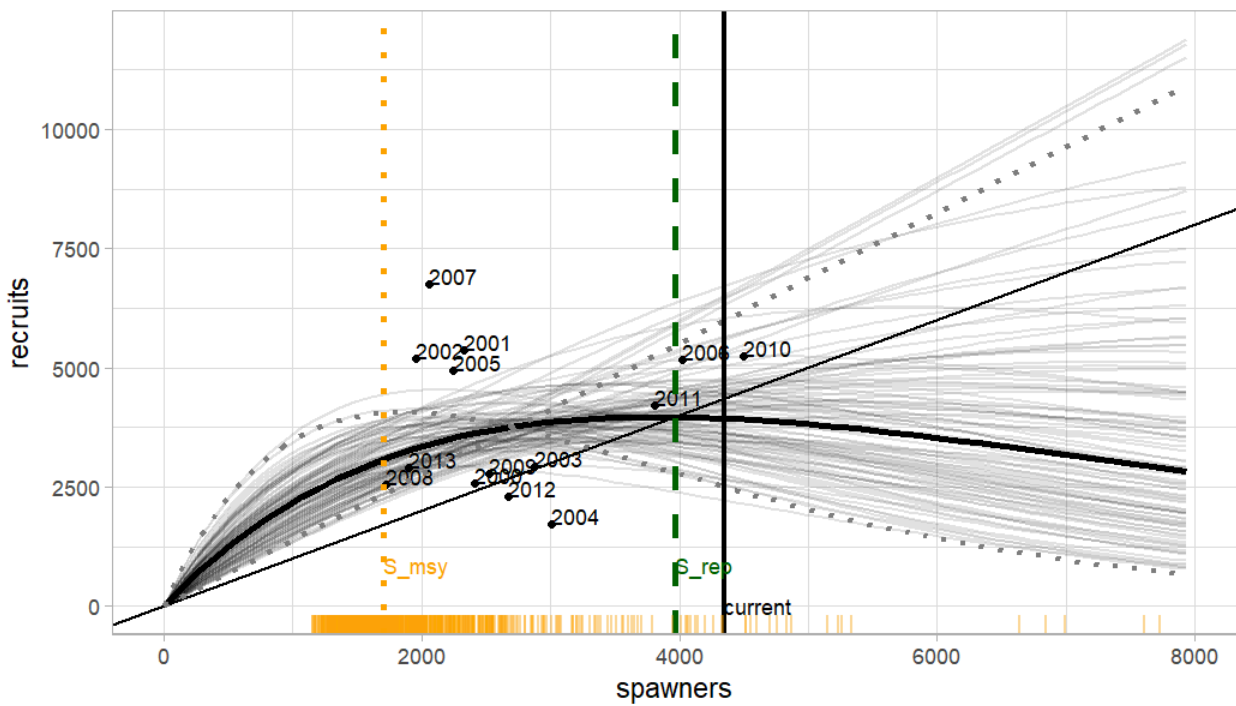
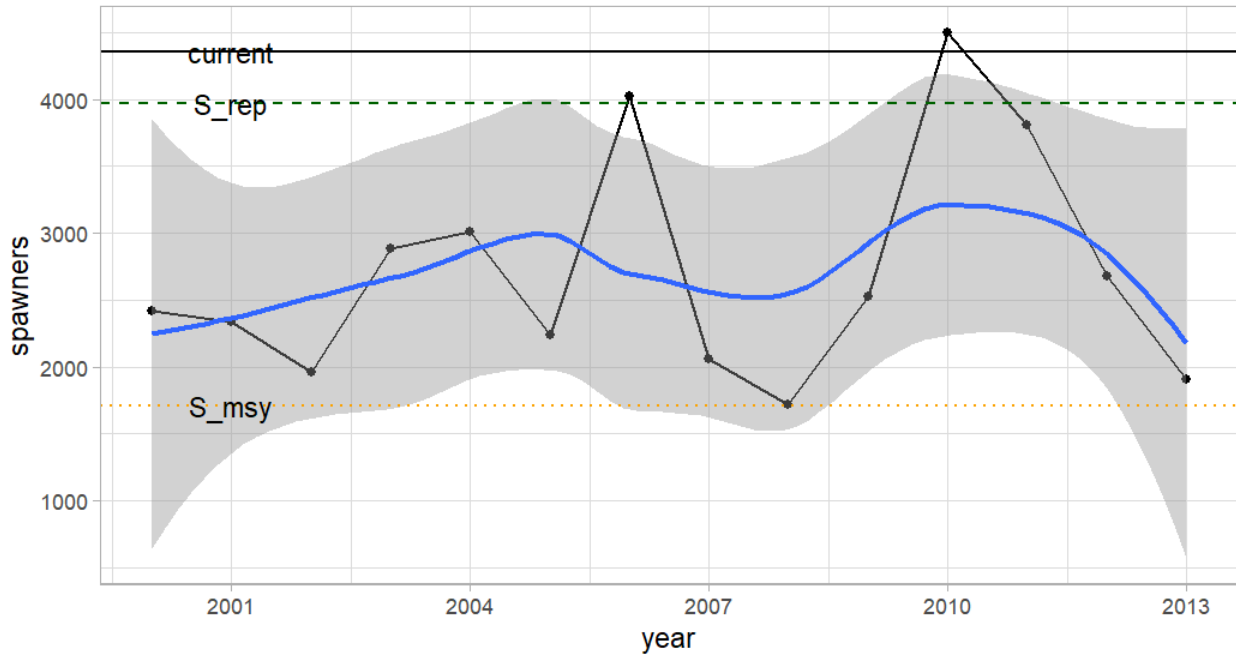
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Willapa Bay Fall Chinook Natural-Origin Spawner-Recruit Population Dynamics, Brood Years 2000 -2013
(Excerpt from Comprehensive Review of Willapa Bay Salmon Policy, page 105)

Willapa Bay, all



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