

**SOUTH PUGET SOUND REGION HARVEST MANAGEMENT PLAN
FOR THE SUBTIDAL GEODUCK CLAM (*Panopea abrupta*) FISHERY
2006-2009**

1. Parties to this Plan

The following are parties to this Harvest Management Plan: the Nisqually Indian Tribe, the Puyallup Tribe of Indians, the Squaxin Island Tribe, (hereafter the Tribes) the Washington Department of Fish and Wildlife (WDFW) and the Washington Department of Natural Resources (DNR) (hereafter the State).

2. Region Covered by this Plan

This Harvest Plan encompasses the sub-tidal lands of southern Puget Sound described as those waters south of a line projected from the ferry dock at Point Southworth to Brace Point. Within the southern Puget Sound region there are four sub-regions. Sub-region A (Puyallup) consists of the sub-tidal lands north and east of a line from the Tacoma Narrows bridge. Sub-region D (Squaxin) consists of the sub-tidal lands north and west of a line running from Devil's Head on the Key Peninsula to Johnson Point. Sub-region C (Nisqually) consists of the sub-tidal lands south of a line running from Mahnckes Point to the western most tip of McNeil Island, east of sub-region D (Squaxin), and southwest of a line running from Gordon Point to Hyde Point on McNeil Island. Sub-region B (Carr Inlet) consists of the sub-tidal lands west of sub-region A (Puyallup) and north of sub-region C (Nisqually).

3. Term of this Plan

This Plan supersedes provisions in all previous geoduck harvest management agreements and Plans between the State and Tribes. The term of this Plan is from April 1, 2006 to March 31, 2009. Any party may terminate this Plan by giving thirty (30) days written notice to all parties to this Plan. This Plan is limited to the time and matters expressly stated herein. Appendixes A, B, and C will be updated and agreed to in writing prior to harvesting by April 1st each year.

4. Purpose of this Plan

This harvest management Plan is intended to be consistent with paragraph 4.5 of the *United States v. Washington*, Case No. 9213, sub-proceeding 89-3 (W.D.Wa.) hereafter referred to as the Rafeedie Implementation Order. The purpose of this Plan is to establish guidelines and general provisions governing management and harvest of geoduck clams (*Panopea abrupta*) in the South Puget Sound Management Region (region described above in section 2). The parties agree to a philosophy of cooperative management in developing and implementing subtidal geoduck fisheries. The objectives of this Plan are to provide sustainable harvest of geoduck resources

consistent with the best available scientific information, protect public health, protect habitat required to sustain geoducks, minimize the impact of harvest on the ecosystem, provide a controlled and orderly fishery, achieve the allocation objectives established in the Rafeedie Implementation Order, and provide a compliance and enforcement program to achieve these objectives.

This Plan is intended to ensure that Treaty Indian and State fishers, subject to their respective regulatory authorities, shall be accorded the opportunity to harvest their shares of geoduck clams as determined by the court in this case, provided that express provisions of this Plan shall control over general provisions of applicable court orders.

This Plan shall not affect nor be considered by any person, party, or court to affect the continuing jurisdiction of the United States District Court for the Western District over all issues and matters within the jurisdiction of that court pursuant to the rulings in *United States v. Washington*, Case No. 9213, sub-proceeding 89-3 (W.D.Wa.). The parties agree they remain bound by § 1.6 of the Implementation Order, continuing the implementation of the Shellfish Sanitation Consent Decree (May 4, 1994).

By entering into this Plan, no party waives any rights under the orders of the court in this matter, except as expressly stated herein.

5. No Waiver or Admission of Usual and Accustomed Areas

No party hereto waives any claims concerning the location, boundaries, scope, or use of usual and accustomed grounds and stations. This Plan does not constitute an admission that a particular area used for management is an accurate description of usual and accustomed grounds and stations, their location, boundaries, scope or use. The terms of this Plan shall not be used as evidence in any Tribal, State, or Federal Court of administrative or quasi judicial proceeding concerning the location, boundaries, scope or use of usual and accustomed grounds and stations.

6. Equal Opportunity Shall Govern Harvest

The State and Tribal harvest opportunity shall be equal and acceptable in terms of geoduck quality, value, ease of digging, density, access, and interference or interruption from other uses. The parties acknowledge that principles of equal opportunity may require evaluation of intangible factors, including the ability to obtain the benefit of first access to unharvested areas and preserving equal harvesting opportunities in the future. Where it is appropriate, individual tracts that are designated for harvest may be divided to preserve present and future harvesting opportunities. The parties recognize the need to maintain complete and valid resource surveys in order to provide future harvest opportunities. The parties recognize that both the State and Tribes have an equal responsibility to conduct resource surveys according to the methodologies described in the WDFW Technical Report #FPT00-01, "Stock Assessment of Subtidal Geoduck Clams, *Panopea abrupta*, in Washington", unless otherwise agreed by all parties.

7. Accommodation of Multiple Tribal Usual and Accustomed Fishing Areas within the Region and Constraints Faced By the State

The parties recognize that individual Tribes may be restricted in their access to a portion of the geoduck resource within the region due to geographic limitations of their Usual and Accustomed Fishing Areas. Additionally, if the State harvests more than its annual share of the sub-regional TAC from a single sub-region in one year there is the potential to significantly reduce the subsequent annual tribal share for a tribe that derives its quota from that sub-region. Therefore the parties agree to attempt to minimize the effects of a sub-regionally disproportionate harvest strategy so that each Tribe is affected equally. The parties also recognize that the State's access to geoduck resources within the region is affected by various factors including statewide management planning and local government permitting processes. The parties will provide each other with information on the location, time, and amount of harvest of the tracts listed in Appendix B prior to issuing harvest regulations or geoduck auction notices. Any issues regarding a party's harvest plans will be discussed by the affected parties prior to notice of auction or written regulation.

8. Risk of Rights by Other Tribes

If a Treaty Tribe not party to this Plan has rights to harvest in this region, then any amount actually taken by that Tribe in this region shall count against the total Tribal share.

9. Notice of Harvesting and Harvest Regulations

The State and Treaty Tribes shall regulate their respective geoduck fisheries to comply with all provisions of this Plan. State geoduck fishing will be conducted under WDFW regulations including RCW 77.60.070, WAC 220-52-019, WAC 220-52-01901, WAC 220-20-026, WAC 220-56-310, WAC 220-56-340, WAC 220-56-355; provisions in the Puget Sound Commercial Geoduck Fishery Management Plan and the 2001 Final Supplemental Environmental Impact Statement; and sales of valuable materials contracts issued by the DNR. The State shall provide a State Environmental Policy Act (SEPA) notice to all Tribal parties prior to the auction of South Sound geoduck tracts. Specific openings and closures for Tribal geoduck fisheries shall occur by Tribal regulation or notice of harvest.

All commercial and subsistence harvests, whether by Tribal regulation or State sale, shall be preceded by written notice to the persons designated below or as otherwise agreed. Notice shall be delivered by mail, facsimile or other agreed to electronic communications at least (three) 3 working days prior to a harvest pursuant to this Plan. All notices shall include at a minimum the following provisions:

- * Fishery type
- * Harvest, dates, days and hours

- * Gear type
- * Catch reporting requirements
- * Specific harvest site
- * Designated off-load site
- * Harvest limits
- * Expected harvest effort

State and Tribal regulations will also include daily subsistence limits when appropriate, and a requirement to report all catch, including commercial take-home. In addition, the parties agree to distribute the names of Tribal and State harvest monitors to any party to this Plan, along with the monitor's cell phone number, upon request.

The following persons are designated to receive notices and regulations:

<u>Contact</u>	<u>Organization</u>	<u>Phone number</u>	<u>Fax number</u>
Kristina Phelps	Nisqually Tribe	360 438-8687	360 438-8742
David Winfrey	Puyallup Tribe	253 573-7933	253 573-7904
Eric Sparkman	Squaxin Island Tribe	360 432-3811	360 426-3971
Deb Kuttel	Department of Fish and Wildlife	360 902-2819	360 902-2158
Celia Barton	Department of Natural Resources	360 902-1025	360 902-1786
Cathy Barker	Department of Health	360 236-3303	360 236-3323

10. Enforcement

Each party shall adopt, prior to any harvest, regulations that carry into effect this Plan. Conditions of such Tribal and State harvest regulations, or DNR harvest contracts, will be enforced according to the authority of the respective party. The parties agree that all aspects of harvest will be enforced, including, at a minimum, measures to prevent off-tract harvest, establishment and maintenance of tract boundaries, on-site and underwater monitoring during harvest operations, and accurate harvest accounting. Each party will ensure that all geoduck harvesting activity occurs only within tracts listed in this management Plan and opened by valid regulation (or notice of harvest, if applicable). Any person who delivers, or knowingly allows delivery of geoducks taken from tracts not opened under provisions of this Plan shall be prosecuted by their respective authorities.

Primary enforcement vessels as well as staff shall be equipped at all times with the tools and training to properly enforce the regulations (see enforcement/compliance - Appendix F).

If one party has information that indicates another party is violating the terms of this Plan, they shall notify those parties directly affected by the alleged violation as soon as possible. Notice of violation shall consist of a written report, and a verbal report when possible, to affected parties and the violating party. The party allegedly violating the terms of the Plan shall then take

meaningful steps to investigate the alleged violation and ensure that the violation is rectified, that harvest comes into compliance, close the fishery if necessary, and see that offenders are prosecuted. Wastage and under-reported pounds will be attributed to that party's share. Any divers or contractors found guilty of violations shall be subject to the enforcement penalties of their respective party. The State and affected Treaty Tribes shall meet at least once per occurrence to resolve violation disputes. Disputes that cannot be resolved in this manner will be referred to formal dispute resolution (Section 27).

Enforcement contacts:

<u>Contact</u>	<u>Organization</u>	<u>Phone Number</u>	<u>Fax Number</u>
Mike Evans	Squaxin Island Tribe	360-426-5222	360-426-7983
Mike Bens, onboard officer	Nisqually Indian Tribe	360-790-3440	360-456-1849
Joe Kautz, Chief of Police	Nisqually Indian Tribe	360-459-9603	360-456-1849
Joe Duenas, Chief of Police	Puyallup Tribe of Indians	253-680-5620	253-680-5658
Alec Wrolson, onboard officer	Puyallup Tribe of Indians	253-377-1624	253-680-5658
Danile Duenas Jr., monitor	Puyallup Tribe of Indians	253-405-3741	253-680-5658
Ken Dean	Department of Natural Resources	360-791-7614	360-902-1786
Mike Cenci	Department of Fish and Wildlife	360-581-3305	

11. Harvest Shall Occur Where Adequate Survey Data Exists

In order for a geoduck tract to be harvested, the area shall first be surveyed to determine the geoduck biomass available on the tract. Only tracts that have current (within 8 years) surveys (in accordance with the methodology described in the WDFW Technical Report #FPT00-01, "Stock Assessment of Subtidal Geoduck Clams, *Panopea abrupta*, in Washington") can be opened for initial harvest, unless otherwise agreed. An eelgrass survey of the entire shoreward boundary of the tract must be completed prior to any harvest. If surveys are to be conducted in the region, the parties agree to distribute and review a survey schedule prior to surveying.

12. Recovery Study

Throughout Puget Sound, specific geoduck beds that have been fished down are included in a long-term recovery study. The purpose of this study is to gather empirical data on changes in geoduck density (recovery) following fishing events. A series of post-fishing surveys are conducted to determine rates of recovery. Once the mean pre-fishing density is reached on a given bed, the bed will be eligible for commercial harvest. Any party to this Plan will not harvest geoduck tracts that are included in the recovery study during this management period unless surveys indicate the pre-fishing density has been reached. See Appendix D for a list of tracts included in the recovery study.

13. Tracts will be Fished Down and Managed for Recovery

The parties agree to a harvest management strategy that minimizes the number of tracts open in

any one year in the region. In order to achieve this goal, the parties agree to the following process:

Once a tract or a portion of a tract (described to all parties prior to fishing), is opened for fishing, the area will be harvested on a continuous basis until a minimum “fished-down” level is achieved. This minimum fished-down level is defined either as a harvest total equal to 65% of the original biomass, or as a density estimate equal to 0.04 geoduck/ft². These values are calculated as the difference between the pre-fishing biomass estimate and the total harvest amount on that tract from the date the survey that produced the pre-fishing estimate was completed.

When the area has been fished down, that area will be placed in recovery status (even though the bed may not be formally in the recovery study). No harvest will occur on a fished-down tract until the pre-fishing density has been reached, as determined by a pre-fishing survey.

To determine if the pre-fishing density has been reached, the survey data must indicate that the current and pre-fishing mean densities are not statistically different at the 95% confidence level, using an appropriate *t*-test, unless agreed otherwise.

14. Harvests in Less than -18 ft. MLLW And Greater than -70 ft.

The parties reserve the right to harvest in areas less than -18 ft. corrected to mean lower low water (MLLW) and greater than -70 ft. uncorrected depth. These areas must be surveyed and opened to harvest based on mutually agreed upon biologically appropriate criteria. Harvest shall be conducted so as to limit the impact to the geoduck resource and protect eelgrass beds and other critical habitat and resources.

Any party proposing to expand the boundaries of an existing tract to areas shallower than – 18 feet (corrected to MLLW) and greater than – 70 feet will develop and distribute a harvest plan that separates these new areas from the remaining portion of the tract that has been open in the past. The harvest plan will include separate catch accounting and monitoring provisions for the new areas, and may be implemented upon agreement by all affected parties.

15. National Shellfish Sanitation Program (NSSP) Compliance

Geoducks shall only be commercially harvested from tracts in the ‘open’ status and certified as approved or conditionally approved by the Washington Department of Health in accordance with the consent decree in *United States v. Washington*, Case No. 9213, sub-proceeding 89-3 (W.D.Wa., May 4, 1994). Geoducks harvested under this Plan shall not be mixed, mingled, or reported with geoduck harvested from any other tract.

16. Harvest Areas Shall be Marked

An area shall not be open at any time for harvest unless the boundaries are accurately described and marked. An area opened for harvesting shall be set apart and marked at all times, with easily identifiable stakes and/or buoys, by the party regulating the harvest. The area shall be marked sufficiently to assure compliance with this Plan, and to allow meaningful compliance with all regulations of the party opening the area for harvest. Latitude and longitude positions shall be provided upon request to all parties following marking of the tract. Positions will be reported using NAD27 data set and preferably taken in dGPS.

The shallow water and deep water corners of the tract will be marked and should be identified with buoys of the same color, and the shoreward boundary of the tract will be marked and should be identified with buoys of a different color. If marking the shoreward boundary is impractical, the parties may agree on an alternate marking and/or enforcement strategy, on a case-by-case basis, to prevent harvest in shallow areas. Alternative marking systems shall be identified in the harvest regulation. Any missing, moved or misplaced buoys will be marked at least temporarily on any given fishing day and replaced permanently within five harvest days, unless otherwise agreed by all parties.

No harvest shall occur in eelgrass beds or eelgrass buffer zones. Eelgrass beds and necessary buffering areas shall be determined, marked, and excluded from the designated harvest area prior to harvest. The shoreward boundary of a tract is the -18 feet mean lower low water (MLLW) depth contour or deeper. The seaward boundary is at -70 feet uncorrected depth. On tracts where an eelgrass bed extends deeper than -16 feet (MLLW) the shoreward boundary of the tract will be at least two vertical feet deeper and seaward of the deepest occurrence of eelgrass. Additional harvest depth restrictions are specified in § 22 for the protection of herring spawning habitat.

17. Harvest Gear and Methods

Commercial geoduck harvest shall be conducted by divers with a hand-held, manually operated water jet. The water jet nozzle shall not exceed 5/8 inch inside diameter. Use of other gear may occur upon written agreement between the parties to this Plan. Each geoduck must be excavated individually from the substrate. The practice of excavating geoducks from the side or “side-mining” is prohibited on all tracts.

18. State and Tribal Harvest Shares

State and Tribal shares of the region’s annual total allowable catch (TAC) shall be consistent with all applicable court orders regarding allocations between Tribal and State harvests, including paragraph 2.5 of the Implementation Order, except that the express provisions of this Plan shall control over the general provision of the applicable Court Orders.

The parties shall harvest in accordance with their respective tribal-State shares. The parties agree to close their respective fisheries by the time that their share of the TAC, as specified in Section

20, has been reached. Any over-harvest disputes will be resolved in a timely manner. Those that cannot be resolved by informal meetings between the parties will be referred to formal dispute resolution (Section 27). Over-harvest of respective shares, by any party, without prior agreement between the parties, will result in adjustment of the violating party's share the following year, thus paying the over-harvest back to the resource.

19. A Calculated Sustainable Yield Shall Dictate Harvest Amount

The parties agree to conduct geoduck harvest based on the assumption that the South Puget Sound Region can sustain a calculated sustainable yield each year in accordance with the methodologies described in WDFW Technical Report #FPT00-01, "Stock Assessment of Subtidal Geoduck Clams, *Panopea abrupta*, in Washington".

The method for determining the sustainable harvest rate may be changed if the parties agree that such changes are warranted. The parties shall cooperatively determine the appropriate values for the geoduck yield model parameters and the fishery exploitation rate in order to calculate the regional annual quota.

The parties agree to cooperatively update the Geoduck Atlas to include all new data on beds that are newly-discovered, re-surveyed, harvested, polluted, or the status of which has changed.

The parties agree to distribute a working draft of the annual Geoduck Atlas to all parties by February 1, allow for a one-month review/comment period, and finalize the Atlas by March 1 each year. Each party will exchange all harvests and geoduck survey information through December 31 by January 15. All harvests from beds that contribute to the commercial biomass, including commercial harvest, commercial take-home, resource assessment dig samples, brood stock collection, research, and PSP samples must be reported and will be attributed to respective parties' shares, unless otherwise agreed.

20. Harvest Quota

The total of the Tribal and non-tribal quotas for each season is based on an annual harvest rate of 2.7% of the total regional commercial biomass. The 2.7 % harvest rate was recommended using the age based equilibrium yield model described in WDFW Technical Report #FPT00-01. Currently, the best available geoduck population data is listed in Appendix A. Annual quotas will be calculated separately for each harvesting season (April 1st through March 31st).

The parties recognize that unregulated geoduck harvesting occurred in the South Puget Sound region in recent years, but the total quantity of this illegal take is unknown. The parties agree the best approach to account for the subsequent reduction in the South Sound geoduck biomass resulting from illegal activities is to conduct post harvest surveys on commercial tracts in this region. Appendix C of this Plan describes the schedule and sites targeted for post harvest surveys during the next four (4) years.

These harvest quotas for the Tribes and for the State will be taken from the respective list of tracts identified in Section 21, unless otherwise agreed. If either party does not harvest its share during the planned harvest year, the unharvested allocations will not be carried over to the following year.

In order to proportionally distribute the harvest based on standing biomass, the state agrees to design its 2006-07, 2007-08, and 2008-09 geoduck fisheries in the South Sound to harvest no more than 50% of the cumulative sub-regional TAC from any of the four individual sub-regions.

21. Harvest Areas

The parties agree to a harvest management strategy that minimizes the number of tracts open in any one year in the region while distributing the harvest proportionally throughout the four sub-regions over the term of this plan. The specific Tribal and State harvest areas are listed in Appendix B with their associated tract number, as designated in the most recent WDFW Geoduck Atlas.

Alternative sites may be added to this Plan for both the Tribal and the State fisheries if the tracts identified in the above lists are not available for harvest. No additional sites shall be selected for harvest other than those listed above except by written agreement amongst the Treaty Tribes, WDFW, and DNR.

22. Protection of Fin Fish Spawning Sites

Finfish, and particularly herring, spawning populations could be negatively impacted by geoduck harvesting. In order to protect finfish populations, the parties agree to restrict geoduck harvesting in areas of known spawning activity. During periods of herring spawning the parties agree to either close the tract to geoduck harvest or if geoduck fisheries occur during these periods, to adopt a shoreward boundary of minus 35 feet (MLLW). The following table identifies herring spawning periods for both Tribal and State geoduck harvest sites:

Herring stock/area	Geoduck tracts	Herring Spawning Period	VEGETATION
Squaxin Pass	16800, 16900, 17400, 17410, 17650, 17900	January 15-April 30	<i>Gracilariopsis, Gigartina, Callophyllis, Botryoglossum, Prionitis</i>
Quartermaster Harbor	10150, 10250, 10300, 10350, 10370	January 1-April 15	<i>Zostera marina, Gracilariopsis, Sarcoditheca (Neogardhiella), Prionitis</i>
Wollochet Bay	10800	January 1-March 15	<i>Gracilariopsis, Ulva, Zostera marina, Laminaria, Gelidium</i>

Carr Inlet	12000	January 15 – April 15	
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The Tribes and the State may mutually agree to adjust the above closure periods if herring stock information suggests a different management action is necessary to protect the herring spawning population. The adjustment will be completed prior to opening a fishery.

In addition, the parties agree to provide for the protection of herring spawning substrate by adopting shoreward boundaries for the full season of minus 25 feet (MLLW), or where the extent of marine algae coverage is determined by a survey, a protection boundary of two vertical feet beyond the deepest occurrence of preferred marine algae within a tract. The table above lists the most commonly used (preferred) marine algae substrates at each identified spawning ground, and approximate areas of overlap between documented herring spawning grounds and primary geoduck tracts. The parties also agree to continue discussions on the implementation of management measures that may be taken to provide additional protection to herring spawning substrates. Any agreed-to management restrictions to provide further substrate protection will be appended to become a part of this Plan.

Additional management actions may be agreed to in order to protect other finfish populations. Harvest activities that potentially impact finfish listed as “Threatened” or “Endangered” under the Endangered Species Act must comply with the requirements specified in the Endangered Species Act for protection of the threatened or endangered species.

23. Harvest Monitoring and Catch Accounting Procedures

The Tribes and the State shall manage their respective fisheries in such a manner that prohibits over-harvest, high-grading, and inaccurate reporting of the total catch. For purposes of this Plan, “high-grading” shall be defined as the practice of discarding or dumping geoducks at any time, resulting in excavated clams not being weighed, reported, or accounted for. For each harvest, each party will provide control measures to detect and prevent discarding and ensure all harvested geoducks are accounted for. All geoducks that are excavated from the substrate during a harvest event shall be retained and reported as pounds of harvested geoducks. Such harvest shall be counted against that party’s share, unless otherwise agreed to in writing. All commercial sales and commercial take-home harvest must be reported on fish receiving tickets at the weigh out site or point of sale. Any subsistence or ceremonial harvest will be accounted for by reporting the harvest on an appropriate record keeping form, as determined by the harvesting party.

All parties shall share harvest and landing reports with all other parties on a monthly basis.

All geoduck fishing shall occur with a monitor either on site or within visual distance of the tract at all times (except for operational requirements or emergencies). The duties and responsibilities of the monitor shall include accurate accounting and reporting of all geoducks harvested during fishing operations. Monitor vessels and/or harvest vessels shall carry a calibrated scale available

for weighing geoducks and geoduck cages, which will be verified for accuracy prior to each weigh out. Primary monitoring vessels will be equipped at all times with a properly functioning GPS unit and a fathometer. All harvested geoduck shall be weighed by the monitor aboard the harvest vessel, on the water, at the harvest site, and within the tract boundaries. However, if exigent circumstances exist (such as high wind or waves at the harvest site), which precludes weighing of geoducks on the harvest vessel, then geoducks may be weighed at a previously designated offload site. If geoducks are to be weighed at a previously designated off-load site, the monitor shall attempt to inventory the harvest aboard each vessel prior to departure from the harvest tract, subject to reasonable safety requirements based on prevailing conditions. The inventory should include a written record of the number of fully loaded and partially loaded standard crates. At the discretion of the monitor, the inventory may also include: 1) an estimate of the percent loaded in partially loaded crates, and 2) a thorough inspection of each vessel to detect harvested geoducks.

The monitor shall take measures necessary to observe and report any discarding of geoducks between the harvest site and the landing site. The monitor or on-site enforcement officer will take all reasonable measures to assure that the harvest area is accurately marked and that harvest does not occur outside of the marked boundaries. If deemed necessary, harvest vessels will be thoroughly inspected for geoducks prior to entering the harvest tract to provide deterrence for marketing illegal geoduck harvest. In addition, all harvesters must notify the monitor prior to leaving the tract or crossing a tract boundary. When a vessel is preparing to leave the tract, the monitor will either inventory the vessel's harvest as stipulated below, or the harvest will be weighed and recorded before the vessel is allowed to proceed. Compliance dives shall occur periodically by enforcement divers. Weighing of geoducks shall be reasonably available to all parties and witnessed by an authorized Tribal or State official of their respective fishery.

The parties recognize the need to keep monitor records to ensure a means to verify the completion of monitoring elements of this Plan. Monitors will accurately record harvest activities in compliance logs, which must be completed by the end of each fishing day and maintained for a period of at least two years. An example of the type of information to be kept in monitor logs is presented in Appendix F.

24. Post-Harvest Surveys

A post-harvest survey shall be conducted within two years after a tract has been closed to fishing, to provide a fishery independent estimate of geoduck biomass on that tract. Post harvest survey methods are described in Appendix E. Tracts in the southern Puget Sound region that are eligible for post-harvest surveys are listed in Appendix C. Eligibility criteria includes a tract that has been closed to fishing (see §13).

Post-harvest survey information will be used to update the WDFW Geoduck Atlas biomass estimates for the next season. Additional use of post-harvest survey data shall be agreed to by all parties. The parties to the South Sound Region will determine the method of analysis for

comparing pre-harvest biomass estimates with post-harvest biomass estimates.

25. Surveys to Update Geoduck Biomass Estimates

The parties agree that the biomass estimates of geoduck on a number of tracts in the South Sound region do not accurately reflect current standing stock levels. To correct this situation, the parties agree to survey these tracts during the next three years to update the geoduck biomass estimates for this region. Appendix C lists the tracts to be surveyed and the year and party designated for this effort. All surveys will be conducted according to the methods outlined in Appendix E, unless agreed otherwise.

26. Unregulated Harvest

When the source and quantity of geoduck taken by unregulated harvest on a commercial tract is known and agreed to by all parties, that amount will be deducted from the tract biomass. When unregulated harvest results in over harvest, the parties will meet to discuss management actions needed to ensure the TAC is not exceeded. These management actions will be adopted according to a schedule and method as agreed to by the parties.

27. Dispute Resolution

Before initiating formal dispute resolution the parties shall first attempt informal resolution of any disputes regarding provisions of this Plan. The process of informal resolution shall include written notice that fully describes the dispute and at least one meeting (in person or telephonic) concerning the dispute. If such a process does not resolve the dispute, the parties shall abide by the formal dispute resolution process stipulated in Section 9 of the Implementation Order.

28. Changes to This Plan

Changes to this Plan may be made only upon written agreement by all affected signatory parties.

29. Authorized Signatures

This Plan is made by the following parties, and each of the undersigned persons has authority to enter this Plan under the federal court's implementation order.

For the Nisqually Indian Tribe:

name: _____
date: _____

For the Puyallup Tribe of Indians:

name: _____
date: _____

For the Squaxin Island Tribe:

name: _____
date: _____

For the WDFW:

name: _____
date: _____

For the DNR:

name: Joseph McClellan
date: 3/31/06

29. Authorized Signatures

This Plan is made by the following parties, and each of the undersigned persons has authority to enter this Plan under the federal court's implementation order.

For the Nisqually Indian Tribe:

name: _____
date: _____

For the Puyallup Tribe of Indians:

name: _____
date: _____

For the Squaxin Island Tribe:

name:  _____
date: 3-30-06

For the WDFW:

name: _____
date: _____

For the DNR:

name: _____
date: _____

29. Authorized Signatures

This Plan is made by the following parties, and each of the undersigned persons has authority to enter this Plan under the federal court's implementation order.

For the Nisqually Indian Tribe:

name: Georgiana Kelly
date: 3-30-06

For the Puyallup Tribe of Indians:

name: _____
date: _____

For the Squaxin Island Tribe:

name: _____
date: _____

For the WDFW:

name: _____
date: _____

For the DNR:

name: _____
date: _____

APPENDIX A 2006-07

2006-07 Geoduck TAC

Based on the most recent Geoduck Atlas

Sub-region A - Puyallup

Tract No	Tract Name	Acres	Clams/Ft2	Pounds	Last Survey	Status
9100	Colvos Pass	95	0.12	963,000	1971	inactive
9200	Olalla	84	0.22	1,568,000	2003	inactive
9400	Fern Cove	116	0.12	883,000	2003	Recovered?
9450	Lisabeula	155	0.3	3,842,000	2003	inactive
9500	Camp Seaith	4	0.09	27,000	1980	inactive
9600	Point Beals	65	0.07	266,000	1987	Previously fished/
Vashon E. Recovery						
9750	Bed	53	0.08	299,000	2001	in Recovery
10000	Point Heyer	137	0.03	391,000	2005	in Recovery?
10050	Point Robinson	69	0.06	412,000	2000-01	in Recovery
10100	Pt. Robinson E.	43	0.05	270,000	1997-98	Currently being fished
10150	Maury Island	130	0.2	3,007,000	2000	Currently being fished
10250	Rosehilla	307	0.27	6,491,000	2002	Previously fished/Inactive
10350	Neill Point N.	59	0.33	2,217,000	2002	inactive
10370	Neill Point S.	26	0.26	322,000	2002	inactive
				Sub-region A - biomass=	20,958,000	
				Annual TAC (X 2.7%); pounds=	565,866	
				State and Tribal shares for 2006-07 season	282,933	

Sub-region B - Carr Inlet

Tract No	Tract Name	Acres	Clams/Ft2	Pounds	Last Survey	Status
10800	Wollochet Harbor	56	0.21	1,299,000	1998	inactive
10900	Ketners Point	80	0.05	250,000	1979	inactive
10950	Sunny Bay	40	0.14	430,000	1989	Previously fished/Inactive
11100	Warren	40	0.07	243,000	1979	inactive
11200	Fox Island N.	50	0.31	2,281,000	1998	Previously fished/Inactive
11250	Fox Island	70	0.32	3,673,000	1997	inactive
11260	Fox Is. S.	61	0.31	1,723,000	1997-98	Currently being fished
11300	Green Pt.	59	0.07	470,000	2002	in Recovery
11600	Henderson Bay	120	0.05	657,000	1978	inactive
11750	Elgin	80	0.01	98,000	1987	in Recovery
11800	Minter Creek	48	0.04	156,000	1987	in Recovery
11900	Glen Cove	195	0.02	404,000	1987	in Recovery
11950	Von Geldern	62	0	23,000	1978	in Recovery
12200	Wyckoff Shoal N	307	0.07	2,199,000	2005	Currently being fished

12300	Wyckoff	156	0.16	2,809,000	2005	Ready to fish
12400	Wyckoff Shoal S	199	0.12	2,357,000	2005	in Recovery
12700	McNeil Island	103	0.1	909,000	2005	Currently being fished
12750	Still Harbor	55	0.14	765,000	2005	inactive
12950	Mahnckes 2-4	149	0.07	1,272,000	2000	in Recovery

Sub-region B - biomass= 22,018,000
Annual TAC (X 2.7%); pounds= 594,486
State and Tribal shares for 2006-07 season 297,243

Sub-region C - Nisqually

Tract							Last	
No	Tract Name	Acres	Clams/Ft2	Pounds	Survey	Status		
12850	Hogan Point S.	28	0.11	259,000	2002	in Recovery		
12900	Hogan Point N.	27	0.14	453,000	2002	Previously fished/Inactive		
13000	Mahnckes 1	17	0.06	74,000	1990	Previously fished/Inactive		
13100	Drayton	225	0.11	1,861,000	2001	Previously fished/Inactive		
13200	Otso	169	0.12	1,619,000	2001-02	Currently being fished		
13300	Treble Point	40	0.15	566,000	1993, 98	Currently being fished		
13350	Anderson Is. S.	72	0.4	2,238,000	2002	inactive		
13400	Thompson Cove	15	0.12	160,000	1992	Currently being fished		
13500	Oro Bay	140	0.18	1,563,000	1992	Currently being fished		
13550	Cole Point	17	0.1	354,000	2004	inactive- needs dig samples		
13600	Yoman	60	0.22	1,180,000	2004	inactive- needs dig samples		
13700	Dupont	36	0.05	178,000	1991	inactive		
13750	McAllister Creek	24	0.05	131,000	1991	inactive		
13800	Nisqually	145	0.04	661,000	1989,91	Currently being fished		
13850	Big Slough/ Sandy Pt.	185	0.07	1,299,000	1998	Currently being fished		
13900	Dogfish	31	0.06	151,000	1996	in Recovery		
14000	Puget	21	0.24	394,000	2002	in Recovery		

Sub-region C- biomass= 13,141,000
Annual TAC (X 2.7%); pounds= 354,807
State and Tribal shares for 2006-07 season 177,404

Sub-region D - Squaxin

Tract							Last	
No	Tract Name	Acres	Clams/Ft2	Pounds	Survey	Status		
14250	Devil's Head	18	0.37	773,000	2002	inactive		
14350	Key Peninsula	47	0.26	1,251,000	2000-01	Currently being fished		
14400	Whitemans Cove	27	0.07	170,000	1986	Previously fished/Inactive		
14500	Herron Island S.	20	0.16	257,000	1979	inactive		
14650	Herron Island 12	14	0.02	25,000	1991	in Recovery		
14700	Herron Island 11	10	0.48	392,000	?	inactive		
14750	Herron Island 10	28	0.1	209,000	1991	in Recovery		
14800	Herron Island 9	15	0.24	283,000	?	inactive		
14850	Herron Island 8	14	0.56	638,000	?	inactive		
14900	Herron Island 7	45	0.1	50,000	1991	in Recovery		
14950	Herron Island 6	55	0.01	51,000	1991	in Recovery		
15000	Herron Island 5	20	0.01	13,000	1991	in Recovery		

15050	Herron Island 4	30	0.01	14,000	1991	in Recovery
15100	Herron Island 3	19	0.01	9,000	1991	in Recovery
15150	Herron Island 2	22	0	10,000	1991	in Recovery
15200	Herron Island 1	62	0.01	48,000	1991	in Recovery
15300	Windy Bluff	150	0.06	1,095,000	1978-79	inactive, poached
15550	Dougall Point 2	20	0.06	152,000	2000	in Recovery
15600	Dougall Point 1A	26	0.09	282,000	2000	in Recovery
15650	Fudge Point	70	0.04	267,000	2003	in Recovery
15700	McMicken Island N	11	0.04	49,000	1986	in Recovery
15750	McMicken Is. N. A	49	0.28	1,488,000	1982	inactive, poached
15800	McMicken Island S.	31	0.03	75,000	1986	in Recovery
15850	Reno	34	0.03	105,000	1986	in Recovery
15900	Buffington	74	0.03	94,000	1989	in Recovery
15950	Wilson	30	0.02	62,000	1989	in Recovery
16150	Henderson Inlet	213	0.1	1,772,000	1979	inactive
16250	Henderson 2	40	0.17	634,000	1992	in Recovery
16300	Henderson 1A	19	0.25	475,000	2001	Recovered?
16450	Peale Passage	127	0.1	1,866,000	2005	Ready to fish
16500	Dover Point	24	0.16	451,000	1989	Previously fished/Inactive
16600	Budd Inlet 1	53	0.07	442,000	1988	Recovered?
16650	Budd Inlet 2	53	0.01	47,000	1990	in Recovery
16700	Budd Inlet 3	68	0	45,000	1990	in Recovery
16750	Budd Inlet 4	51	0.01	41,000	1990	in Recovery
16800	Budd Inlet 5	34	0.01	50,000	1990	in Recovery
16900	Big Hunter	93	0.07	917,000	2000	in Recovery
16950	Weist Windmill	53	0.06	449,000	1982	Previously fished/Inactive
17000	Rignall	9	0.11	104,000	1989	Previously fished/Inactive
17100	Cooper Point	5	0.2	134,000	1989	Previously fished/Inactive
17150	Eld Inlet E	54	0.01	223,000	1996	in Recovery
17200	Eld Inlet W	98	0.02	279,000	1989, 96	in Recovery
17420	Arcadia 1-4	250	0.05	1,581,000	2002	in Recovery
17500	Steamboat 3	48	0.01	91,000	1990	in Recovery
17550	Steamboat 2	48	0.04	208,000	1990	in Recovery
17600	Steamboat 1	26	0.06	194,000	1990	in Recovery
17800	Steamboat 4	18	0.01	28,000	1990	in Recovery
Sub-region D - biomass=				17,893,000		
Annual TAC (X 2.7%); pounds=				483,111		
State and Tribal shares for 2006-07 season				241,556		

**Appendix B 2006-07
Harvest Shares and Harvest Sites**

2006-07 Planned Harvest Sites and Harvest Distribution

	Tribal Sites	Tribal Harvest	State Sites	State Harvest	% of State Share
A- Puyallup					
	Maury Island #10150	282,933	none	0	0.0%
	Neil Pt. North #10350				
B - Carr Inlet					
	Wyckoff Shoal S. #12300	297,243	Wyckoff Shoal N #12200	699,395	70.0%
	Fox Island S. #11260		Still Harbor # 12750 (Secondary)		
C - Nisqually					
	Otso #13200	177,404	none	0	0.0%
	Drayton #13100				
D - Squaxin					
	Key Peninsula, #14350	241,556	Peale Passage #16450	299,741	30.0%
			Key Peninsula #14350 (Secondary)		
Total Regional		999,135		999,135	100.0%

2007-08 Tentative Harvest Sites and Harvest Distribution

	Tribal Sites	Tribal Harvest	State Sites	State Harvest	% of State Share
A- Puyallup					
	Maury Island #10150		TBD		65.0%
	Neil Pt. North #10350				
B - Carr Inlet					
	Wyckoff Shoal S. #12300		Wyckoff Shoal N #12200		0.0%
	Fox Island S. #11260		Still Harbor # 12750 (Secondary)		
C - Nisqually					
	Otso #13200		Sandy Point/Big Slough #13850		35.0%
	Drayton #13100		Hogan Point North #12900		
D - Squaxin					
	Key Peninsula, #14350		Peale Passage #16450	0	0.0%
			Key Peninsula #14350 (Secondary)		
Total Regional					100.0%

2008-09 Tentative Harvest Sites and Harvest Distribution

	Tribal Sites	Tribal Harvest	State Sites	State Harvest	% of State Share
A- Puyallup					
	Maury Island #10150	TBD			27.3%
	Neil Pt. North #10350				
B - Carr Inlet					
	Wyckoff Shoal S. #12300		Wyckoff Shoal N #12200	0	0.0%
	Fox Island S. #11260		Still Harbor # 12750 (Secondary)		
C - Nisqually					
	Otso #13200		Sandy Point/Big Slough #13850		26.2%
	Drayton #13100		Hogan Point North #12900		
D - Squaxin					
	Key Peninsula, #14350		Peale Passage #16450		46.4%
	TBD		Key Peninsula #14350 (Secondary)		
Total Regional					100.0%

**Appendix C 2006-07
Planned Stock Assessment Surveys**

Tract Name and #	Year of Survey	Surveying Party	Survey Type
Fox Island (#11250)	2007	Tribes	biomass update
Fox Island N. (#11200)	2007	WDFW	biomass update
Fox Island S. (#11260)		Tribes	biomass update
Mahnckes 2-4 #12250	2007	WDFW and Squaxin	post harvest
Nisqually, #13800	2006	WDFW and Nisqually	post harvest
Area 26D (TBD)	2006	WDFW	Pre-fishing
Area 28C (TBD)	2006-2007	Squaxin	Pre-fishing

Appendix D
South Puget Sound tracts presently included in the recovery study

TRACT NAME	TRACT NUMBER	PRE-FISHING DENSITY ^{1/}	SURVEY MONTH	NEXT SURVEY ^{2/}
Dolphin Point ^{3/}	09000	0.193	June	2008
Fern Cove	09400	0.189	June	2009
Vashon East	09750	0.207	September	2007
Hogan Pt. South	12850	0.251	July	2008
Hogan Pt. North ^{6/}	12900	0.115	July	Recovered
Puget	14000	0.360	July	2008
Mill Bight	14100	0.459	July	2008
Dougall Pt. 1A ^{4/}	15600	0.172	July	2006
Dougall Pt. 2 ^{4/}	15550	0.231	July	2006
Fudge Pt. ^{4/}	15650	0.149	June	2009
Henderson 1A ^{5/}	16300	0.246	September	2009
Big Hunter	16900	0.171	June	2006

^{1/} Adjusted using 0.75 show factor, except where noted

^{2/} About 6 years following last survey.

^{3/} 1975 data was not used for pre-fishing density calculation due to timing of survey

^{4/} These three tracts used show factors different than the standard 0.75. These site and date specific show factors were used to calculate the pre-fishing density for all three of the tracts. Show factors used: Dougall Pt. 1A, 0.79 and 0.81 show factor; Dougall Pt. 2, 0.83 show factor; Fudge Pt., 0.77 and 0.78 show factor.

^{5/} Pre-fishing density of Henderson 1A and Henderson 2 tracts was combined. Density data taken directly from the 1985 SEIS and not verified by tract specific transects.

^{6/} Pre-fishing density has been reached and tract is eligible for harvest.

Appendix E Post-Harvest Survey Methodologies

Post-harvest surveys will be conducted in the same manner as pre-harvest surveys (per WDFW Technical Report #FPT00-01, "Stock Assessment of Subtidal Geoduck Clams, *Panopea abrupta*, in Washington"), with the following exceptions or modifications:

Statistical Precision: The 95% confidence bound on the estimate of post-harvest biomass will not be required to lie within $\pm 30\%$ of the biomass estimate itself (as is required of pre-fishing survey estimates)

Statistical Precision: The layout of systematic grid lines of transects for post-harvest surveys will follow the procedures for pre-fishing surveys in WDFW Technical Report #FPT00-01, "Stock Assessment of Subtidal Geoduck Clams, *Panopea abrupta*, in Washington" (in the section "Standard Layout of Systematic Grid Lines"). Briefly, this calls for the first grid line of transects to begin at a randomly selected point along the tract's 18ft MLLW contour, and subsequent lines of transects are placed at 1,000-ft intervals along the entire length of the tract's 18ft MLLW contour. The only exception to this spacing would occur if the pre-fishing survey on the tract used a smaller interval, in which case the post-harvest survey will use the same interval.

Following the procedure, it is expected that the sample size (i.e., the number of transects) for post-harvest surveys will be very similar to the sample size for the pre-fishing survey on the same tract. Some minor difference in the sample size is expected, since the first grid line of transects for the post-harvest survey will begin at a different location along the inshore contour (due to random placement), and because there will inevitably be variations in the exact course swum by diver on the two surveys.

Dig Samples: Dig samples of geoducks need not be taken during post-harvest surveys except in the special case described below. In most cases, the biomass estimate for the post-harvest survey will be the product of the mean density of geoducks (from the post-harvest survey) and the mean weight per geoduck (from the pre-fishing survey). If, however, the post-harvest biomass estimate results in rejection of the null hypothesis (i.e., if the t-test suggests that statistically significant non-reporting has occurred on the tract), then a dig sample will be taken and the mean weight-per-geoduck estimate will be re-calculated using this post-harvest dig sample. The dig sample, if required, will be an unbiased series of cluster samples taken in accordance with WDFW Technical Report #FPT00-01, "Stock Assessment of Subtidal Geoduck Clams, *Panopea abrupta*, in Washington".

Articulated shells: During post-harvest surveys, all articulated geoduck shells found within the boundaries of survey transects will be counted and the shell length measured to the nearest millimeter. The number and shell length of any articulated shells removed from a tract by compliance of enforcement staff will be recorded and provided to the appropriate State or tribal biologist.

Appendix F

Recommended Monitor Log Information

1. Name of harvest monitor responsible for completing monitor log.
2. Time and date harvest monitor arrives at harvest site.
3. Time and date harvest monitor leaves harvest site.
4. Time and date each harvest vessel enters the harvest site.
5. Time and date each harvest vessel leaves the harvest site.
6. Time, date, vessel name or number, name of vessel operator, and names of divers on each harvest vessel.
7. Time, date, and vessel name of each vessel for each compliance check; findings of each compliance check, and any enforcement actions taken.
8. Time and date of underwater compliance checks, name of harvester, and name or number of vessel checked.
9. Time and date of harvest weigh out, number of cages and weights of geoducks.
10. Circumstances when weigh outs cannot occur on the water.